THE DEPARTMENT OF NATURAL RESOURCES

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Volume 1, Number 3
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SELECTED REFERENCES ON THE SOUTHERN APPALACHIANS; ALABAMA AND TENNESSEE

Compiled by Anne Bellomy, Librarian
Mississippi Bureau of Geology

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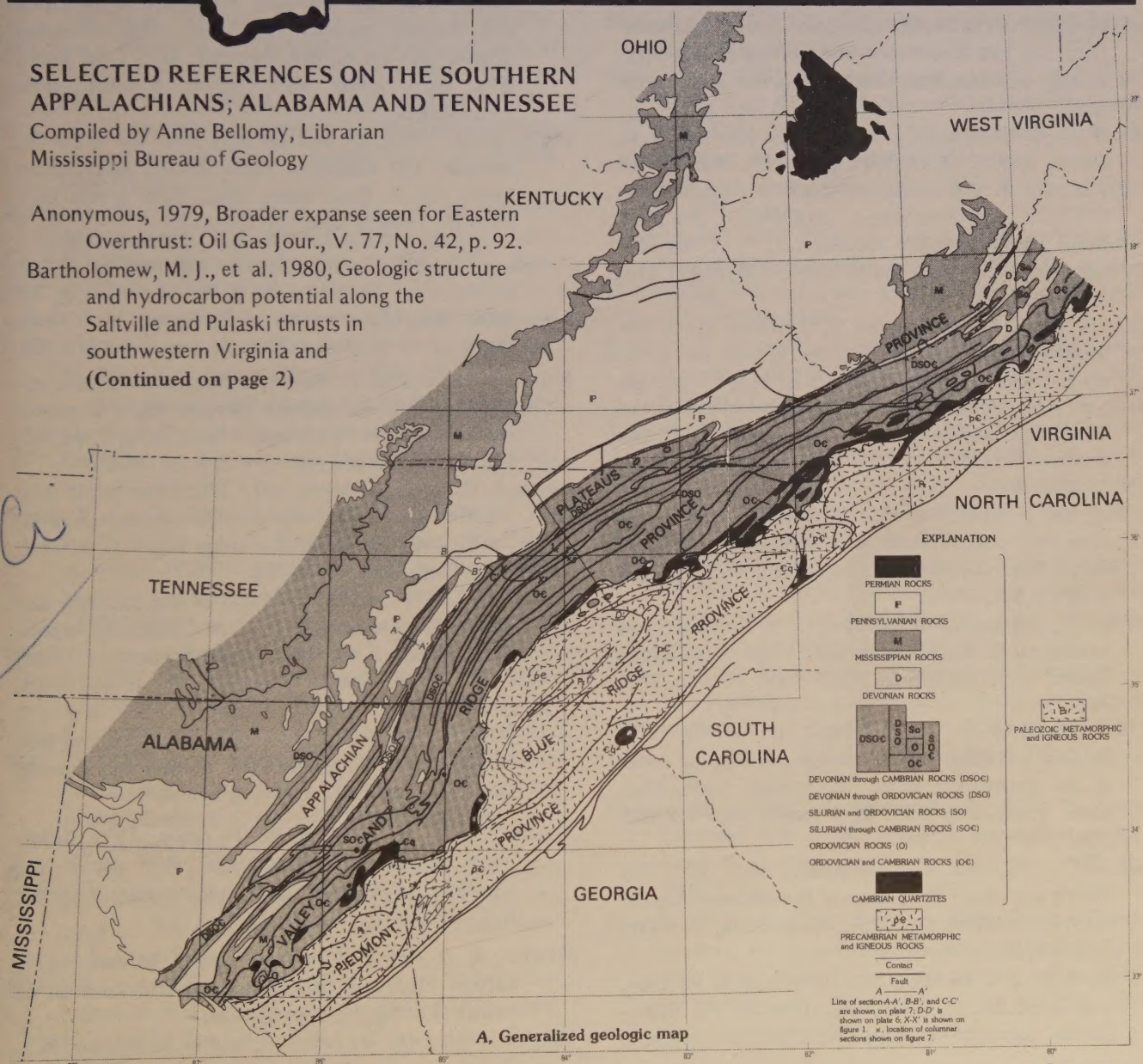

A, Generalized geologic map

Geologic map of the Southern Appalachians (From Harris and Milici, 1977)

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CALENDAR OF EVENTS

March - June 1981

March 18-20 - Southeastern Section, Geological Society of America, ann. mtg., Hattiesburg, Mississippi. (Daniel A. Sundeen, Dept. of Geology, University of Southern Mississippi, Box 8196, Southern Station, Hattiesburg 39401. Phone: 601/264-2717)

March 24-25 - Water well technology, symposium, Denver. (Bud Heiss, National Water Well Association, 500 W. Wilson Bridge Road, Worthington, Ohio 43085. Phone: 614/846-9355)

April 13-14 - South-central Section, GSA, ann. mtg., San Antonio, Texas. (Donald F. McGannon, Jr., Dept. of Geology, Trinity University, San Antonio 78212. Phone: 512/736-7606)

May 6-8 - Highway geology, ann. symposium & field trip, Gatlinburg, Tennessee. (David L. Royster, Tennessee Dept. of Transportation, 2200 Charlotte Ave., Nashville 37203. Phone: 615/741-4775)

May 25-29 - American Geophysical Union, spring mtg., Baltimore (AGU headquarters, 2000 Florida Ave., NW, Washington, D. C. 20009. Phone: 202/462-6903)

May 31 - June 3 - American Association of Petroleum Geologists and Society of Economic Paleontologists & Mineralogists, ann. mtg., San Francisco, California. (AAPG Convention Department, Box 979, Tulsa 74101. Phone: 918/584-2555)

MINERAL

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Abstract

A preliminary list of Mississippi minerals was published in 1966 in the Bulletin of the Mississippi Gem and Mineral Society. The present list incorporates additions and revisions that have come to my attention subsequently. The 1966 list included 142 names; the present list has 167 names of which 107 are regarded as distinct mineral species.

Introduction

So far as I am aware, the only previously compiled and published list of Mississippi Minerals is the preliminary list published in the Mississippi Gem and Mineral Society Bulletin (Mather, 1966). This list is almost certainly incomplete and probably fails even to include all the names of minerals, the occurrence of which has been recorded in published papers. Anyone having knowledge of the authenticated occurrence in Mississippi of minerals not on this list is requested to let me know. To qualify as a "Mississippi mineral" the mineral must have reached Mississippi by natural processes, have been found and identified. Minerals found at the surface and those recovered from the subsurface by mining and drilling; those brought here by the action of wind and water; those arriving here from space as meteorites, are all eligible.

Some of the names in the list are not, strictly speaking, mineral names; being either: (a) Rock names, e.g., bauxite, chert, chalk, rock salt; (b) Names of mineraloids, e.g., coal, lignite, peat; (c) Mineral family names, e.g., feldspar, garnet, pyroxene, amphibole; (d) Mineral varietal names, e.g., agate, jasper, selenite; or (e) Synonyms, e.g., vesuvianite = idocrase, titanite = sphene. Such names are included because they have been, or are being, used in contexts that suggest that they are mineral names and hence their absence

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might be regarded as an oversight. The list of references is not intended to be a bibliography of works in which references to Mississippi minerals have been found. Many works not listed were reviewed and were omitted since they included records of no minerals other than those for which references had already been recorded. Those names that are regarded as representing valid mineral species are given in capital letters. These names are as given in Fleischer (1975).

ACMITE: $NaFeSi_2O_6$, pyroxene group (Ref: 44)

ACTINOLITE: $Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2$, amphibole group (Ref: 18)

Aegerite = Aegerine = ACMITE (Ref: 44, 45, 54)

Agate: banded var. of QUARTZ (Ref: 10, 25, 27)

ALBITE: $NaAlSi_3O_8$, end member of plagioclase series (Ref: 44, 59)

Alum: hydrous alkali aluminum sulfates (Ref: 25)

Alunite: a group including JAROSITE (q.v.)

Amphibole: a group (Ref: 40, 42)

Analcite = ANALCIME: (Ref: 44, 45)

ANALCIME: $NaAlSi_2O_6 \cdot 2H_2O$, recorded as analcite.

ANATASE: TiO_2 (Ref: 22)

ANDALUSITE: Al_2SiO_5 (Ref: 19, 22)

ANDRADITE: $Ca_3Fe^{+3}{}_2(SiO_4)_3$, garnet group; Melanite = titanian andradite, q.v.

ANHYDRITE: $CaSO_4$ (Ref: 2, 57, 59, 66)

ANKERITE: $Ca(Fe,Mg,Mn)(CO_3)_2$, Braunstein, 1950, states that much that has been so called is SIDERITE, q.v.

ANORTHITE: $CaAl_2Si_2O_8$, end member of plagioclase series, see ALBITE and plagioclase.

Apatite: A group of minerals including CHLORAPATITE, FLUORAPATITE, and 14 others (Ref: 18, 19, 44, 45, 49)

ARAGONITE: $CaCO_3$ (Ref: 57)

Asphalt: Hydrocarbon, in limestones in north Mississippi (Ref: 41)

AUGITE: $(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$, pyroxene group (Ref: 18, 19, 44, 45, 54, 59)

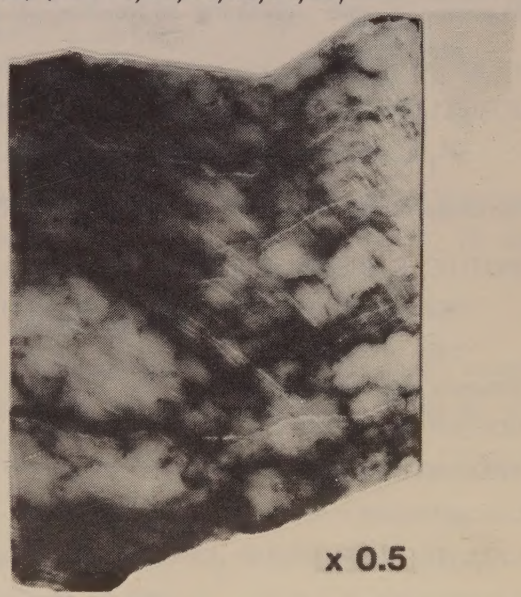

Figure 1. Nodular anhydrite core taken from Williams Bros. Eng. Co. No. 1-A Henry Kersh well in Rankin County, Mississippi. The anhydrite is from the Haynesville Formation, which is Jurassic in age. (Photo and sample courtesy of David Dockery)

BARITE: $BaSO_4$ (Ref: 7, 18, 66)

BARKEVIKITE: $(Na,K)Ca_2(Fe,Mg,Ti)_5(Al,Si)_8O_{22}(OH_2)$, amphibole group (Ref: 47)

Basaltic hornblende: amphibole group (Ref: 44)

Basanite = Lydian stone = touchstone: black jasper (Ref: 25, 27)

Figure 2. Barite nodule found in the Bucatunna Clay near Edwards, Mississippi. (Photo and sample courtesy of David Dockery)

Bauxite: a rock containing hydroxides of aluminum (Ref: 11, 52)

BEIDELLITE: $(Na,Ca/2)_{0.33}Al_2(Al,Si)_4O_{10}(OH)_2 \cdot n(H_2O)$, MONTMORILLONITE group (Ref: 55)

Bentonite: a rock, devitrified volcanic ash (Ref: 63)

BIOTITE: $K(Mg,Fe)_3(Al,Fe)Si_3O_{10}(OH,F)_2$, mica group (Ref: 5, 18, 19, 20, 22, 40, 42, 44, 45, 47, 49, 56, 59)

Bitumen: see asphalt (Ref:41)

BOEHMITE: AlO(OH), a constituent of bauxite, q.v.

BROOKITE: TiO_2 (Ref: 59)

Cairngormstone = smoky QUARTZ (Ref: 25)

CALCITE: $CaCO_3$ (Ref: 9, 40, 44, 53, 57, 59, 66)

CANCRINITE: $(Na,K,Ca)_{6-8}(Al,Si)_{12}O_{24}(SO_4,CO_3,Cl)_{1-2} \cdot nH_2O$ (Ref: 44)

Carnelian = red or brown QUARTZ (Ref: 25, 27)

CELESTITE: $SrSO_4$ (Ref: 57)

Chalk: a rock consisting largely of $CaCO_3$ (Ref: 40, 59)

Chert: a rock consisting largely of SiO_2 (Ref: 10, 25, 51)

Chalcedony: a fine grained variety of QUARTZ (Ref: 9, 10, 25, 44)

CHALCOPYRITE: $CuFeS_2$ (Ref: 42)

CHLORAPATITE: $Ca_5(PO_4)_3Cl$, a member of the apatite group, see apatite.

Chlorite: a group of minerals (Ref: 18, 20, 40, 44, 54, 59)

CHLORITOID: $(Fe,Mn)_2Al_4Si_2O_{10}(OH)_4$ (Ref: 18)

CHROMITE: $FeCr_2O_4$ (Ref: 59)

CLINOPTILOLITE: $(Na,K,Ca)_{2-3}Al_3(Al,Si)_2Si_{13}O_{36} \cdot 12H_2O$, zeolite group (Ref: 37)

Coal: hydrocarbon (Ref: 32, 44)

COESITE: SiO_2, should occur in any meteor crater, see Butler, 1962.

COLLOPHANE: Apatite group (includes much "petrified bone") (Ref: 10, 18)

COPPER: Cu (Ref: 42)

CORDIERITE: $Mg_2Al_4Si_5O_{18}$ (Ref: 31)

CORUNDUM: Al_2O_3 (Ref: 22)

CRISTOBALITE: SiO_2, a constituent of opal, q.v. (Ref: 37)

CUPRITE: Cu_2O, almost certainly is associated with native COPPER, q.v.

Diallage: a foliated pyroxene, near DIOPSIDE (Ref: 18)

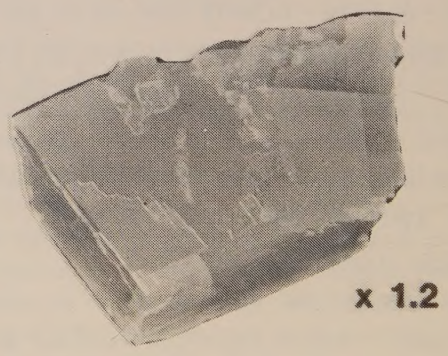

Figure 3. Calcite (cleave rhombohedron) showing twinning was found in the Glendon Limestone in an agricultural lime quarry north of Waynesboro, Mississippi. (Photo and sample courtesy of David Dockery)

DIASPORE: AlO(OH), a constituent of bauxite, q.v. (Ref: 18, 53)

DIOPSIDE: $CaMgSi_2O_6$, pyroxene group (Ref: 18, 19)

DOLOMITE $CaMg(CO_3)_2$, (Ref: 2, 19, 40, 42, 57, 59, 66)

EPIDOTE: $Ca_2(Al,Fe)_3Si_3O_{12}(OH)$, (Ref: 5, 18, 19, 22, 44, 47, 59, 60)

EPSOMITE: $MgSO_4 \cdot 7H_2O$; occurs in solution in sea water.

Feldspar: a group (Ref: 3, 6, 9, 39, 42, 49, 57)

FLUORAPATITE: $Ca_5(PO_4)_3F$, a member of the apatite group (see apatite).

FLUORITE: CaF_2 (Ref: 44)

GALENA: PbS (Ref: 25, 59)

Garnet: a group of minerals (Ref: 5, 9, 18, 19, 20, 22, 40, 44, 47, 49, 59)

GIBBSITE: $Al(OH)_3$, a constituent of bauxite (q.v.) (Ref: 53)

GLAUCONITE: $(K,Na)\ (Al,Fe^{+3},Mg)_2(Al,Si)_4O_{10}(OH)_2$, mica group (Ref: 11, 20, 25, 40, 44, 51, 59)

GOETHITE: alpha-FeO(OH), (Ref: 53, 59)

GOLD: Au (Ref: 1, 25)

GRAPHITE: C (Ref: 44)

GROSSULAR: $Ca_3Al_2(SiO_4)_3$, garnet group.

Grossularite = GROSSULAR q.v. (Ref: 44)

GYPSUM: $CaSO_4 \cdot 2H_2O$ (Ref: 5, 26, 30, 59, 66)

HALITE: NaCl (Ref: 2, 57, 59)

HALLOYSITE: $Al_2Si_2O_5(OH)_4$ (Ref: 53, 65)

HAUYNE (as hayunite): $(Na,Ca)_{4\text{-}8}(Al_6Si_6)O_{24}(SO_4, S)_{1\text{-}2}$.

Hayunite = HAUYNE (Ref: 45)

HEMATITE: alpha Fe_2O_3 (Ref: 18, 19, 40, 60) see also turgite.

HORNBLENDE: $(Ca,Na)_{2\text{-}3}(Mg,Fe^{+2},Fe^{+3},Al)_5(Al,Si)_8O_{22}(OH)_2$, amphibole group (Ref: 5, 18, 19, 44, 45, 54, 59)

Hornstone: Chert (Ref: 25, 27)

HYDROTROILITE: colloidal hydrous ferrous sulfide (?) (Ref: 46)

HYDROXYL-APATITE: $Ca_5(PO_4)_3(OH)$, a member of the apatite group, see apatite.

HYPERSTHENE: $(Mg,Fe)_2Si_2O_6$, pyroxene group (Ref: 18, 19, 22)

ICE: H_2O, a form of water that occurs in Mississippi too often in the winter.

Idocrase = VESUVIANITE: (Ref: 59)

ILLITE: $(K,H_3O)(Al,Mg,Fe)_2(Al,Si)_4O_{10}[(OH)_2,H_2O]$, clay mica (Ref: 6, 12, 40)

ILMENITE: $FeTiO_3$ (Ref: 5, 15, 18, 19, 20, 22, 44, 47, 59)

IRON: Fe, a principal constituent of iron meteorites (Ref: 35)

JAROSITE: $KFe_3(SO_4)_2(OH)_6$, alunite group (on display at 1964 Gem and Mineral Show, from Brandon, Miss., with GYPSUM), (Ref: 37, 48)

Jasper: a variety of microcrystalline QUARTZ or chalcedony containing iron oxide (Ref: 25, 27)

Jaspilite: a rock consisting of layers of jasper and HEMATITE (Ref: 10)

KAMACITE: alpha NICKEL IRON, q.v.

Kaolin = KAOLINITE: (Ref: 25)

KAOLINITE: $Al_2Si_2O_5(OH)_4$ (Ref: 6, 10, 11, 12, 20, 40, 44, 45, 53, 59, 60)

KYANITE: Al_2SiO_5 (Ref: 5, 15, 18, 19, 20, 22, 40, 47)

Labradorite: variety of plagioclase, q.v.

Leucite: $KAlSi_2O_6$ (Ref: 44)

Leucoxene: a general term for fine-grained alteration products of ILMENITE (Ref: 5, 15, 18, 19, 20, 22, 47, 60)

Lignite: a hydrocarbon (Ref: 25, 44)

Limonite: a general term for hydrous iron oxides, mostly GOETHITE (q.v.), (Ref: 3, 5, 9, 18, 19, 30, 44, 51)

Lydian stone = touchstone = basanite: black jasper (Ref: 25, 27)

MAGNETITE: $Fe^{+2}Fe_2^{+3}O_4$ (Ref: 5, 18, 19, 40, 42, 44, 45, 47, 49, 59, 60)

MARCASITE: FeS_2 (Ref: 10, 19)

Melanite = Titanian andradite: (Ref: 44, 45)

MELANTERITE: $FeSO_4 \cdot 7H_2O$, the common alteration product of PYRITE or MARCASITE.

Metahalloysite = HALLOYSITE: (Ref: 53)

Mica: a group of minerals (Ref: 3)

MICROCLINE: $KAlSi_3O_8$, feldspar group (Ref: 19, 40)

Microperthite = Perthite: (Ref: 54)

MONAZITE: $(Ce,La,Nd,Th)PO_4$ (Ref: 15, 18, 19, 20, 22)

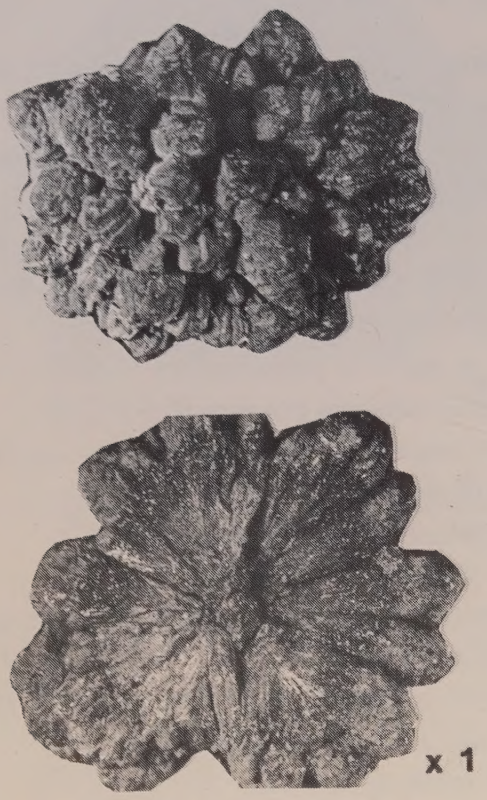

Figure 4. Marcasite rose from Demopolis Chalk outcrop at Red Bud Creek between Starkville and Artesia, Mississippi. (Photo and sample courtesy of David Dockery)

MONTMORILLONITE: $(Na,Ca)_{0.33}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot nH_2O$ (Ref: 6, 12, 20, 30, 40, 44, 59, 60)

MUSCOVITE: $KAl_2(Al,Si_3)O_{10}(OH)_2$ (Ref: 5, 18, 19, 40, 44, 47, 49), (see also sericite).

NATROLITE: $Na_2(Al_2Si_3)O_{10} \cdot 2H_2O$ (Ref: 44)

NEPHELINE: $(Na,K)AlSiO_4$ (Ref: 44, 45)

NICKEL - IRON: (Fe,Ni) (gamma Fe,Ni), including KAMACITE (alpha Fe,Ni); TAENITE, principal constituent of Oktibbeha Co. meteorite.

Oligoclase: a variety of plagioclase (Ref: 35, 54)

OLIVINE: $(Mg_2SiO_4 \cdot Fe_2^{+2}SiO_4)$, (Ref: 44)

Onyx: var. of QUARTZ (Ref: 25)

OPAL: $SiO_2 \cdot nH_2O$ (Ref: 44)

ORTHOCLASE: $KAlSi_3O_8$, feldspar group (Ref: 40, 44, 45, 53)

Peat: Underdone lignite, q.v.

Perthite: a rock composed of intergrown feldspar minerals.

Petrified wood: QUARTZ, chalcedony, OPAL ($SiO_2 \cdot nH_2O$), (Ref: 10)

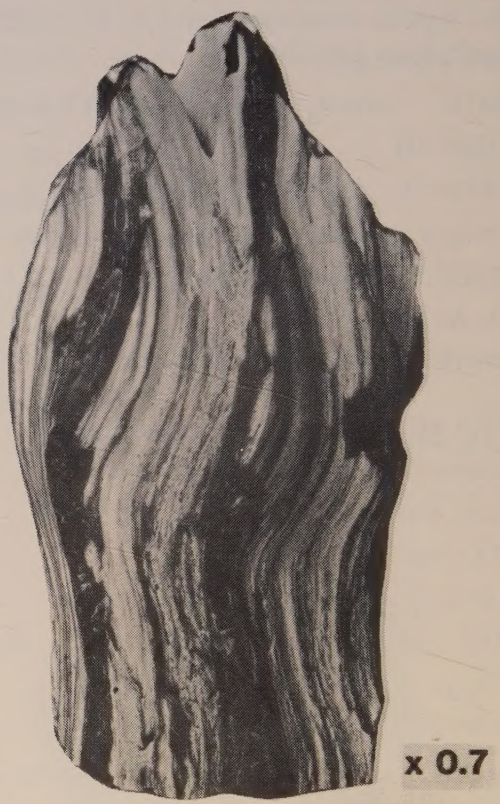

Figure 5. Petrified wood found in stream gravel from south Mississippi. (Photo and sample courtesy of David Dockery)

PIGEONITE: $(Mg,Fe,Ca)(Mg,Fe)Si_2O_6$, pyroxene group (Ref: 19, 44)

Plagioclase: a series in the feldspar group, cf ALBITE, ANORTHITE, oligoclase (Ref: 40)

Psilomelane: a general term for massive manganese oxides, cf wad, PYROLUSITE.

PYRITE: FeS_2 (Ref: 5, 10, 18, 19, 25, 40, 42, 44, 46, 56, 59)

PYROLUSITE: MnO_2; the principal constituent of wad, q.v.

Pyroxene: a group (Ref: 44, 45, 59)

QUARTZ: SiO_2 (Ref: 6, 9, 11, 12, 18, 19, 20, 39, 40, 42, 44, 47, 49, 51, 56, 57, 59)

Rock salt = HALITE: (q.v.), (Ref: 2)

RUTILE: TiO_2 (Ref: 5, 15, 18, 19, 20, 22, 39, 59)

Salt: (see HALITE), (Ref: 57)

SANIDINE: feldspar group (Ref: 44, 45)

Sard: a variety of QUARTZ (Ref: 25)

Sardonyx: banded sard (Ref: 25)

Selenite = GYPSUM (Ref: 51)

Sericite: usually = MUSCOVITE, mica group, (Ref: 44, 45, 56)

Serpentine: a group (Ref: 44, 59)

SIDERITE: $FeCO_3$ (Ref: 4, 5, 16, 18, 19, 20, 27, 42, 51)

SIDEROTIL: $Fe^{+2}SO_4 \cdot 5H_2O$ (Ref: 37); see also MELANTERITE.

SILLIMANITE: Al_2SiO_5 (Ref: 15, 18, 19, 20, 22, 47)

SILVER: Ag (Ref: 1, 27)

Smectite = MONTMORILLONITE: (Ref: 13)

SODALITE: $Na_4Al_3(SiO_4)_3Cl$ (Ref: 44, 45)

Sphene = TITANITE: (Ref: 5, 19, 59)

SPINEL: $MgAl_2O_4$ (Ref: 19, 22)

STAUROLITE: $(Fe,Mg,Zn)_2Al_9Si_4O_{23}(OH)$, (Ref: 5, 15, 18, 19, 20, 22, 47)

STISHOVITE: SiO_2, should occur with COESITE, see Butler, 1962.

STRONTIANITE: $SrCO_3$ (Ref: 57, 59)

SULFUR: S (Ref: 59, 66)

TAENITE: gamma NICKEL IRON, q.v.

TALC: $Mg_3Si_4O_{10}(OH)_2$ (Ref: 44)

TITANITE: $CaTiSiO_5$ (see also sphene), (Ref: 5, 18, 19, 22, 44, 45, 47)

TOPAZ: $Al_2SiO_4(F,OH)_2$ (Ref: 19, 22)

Touchstone = Lydian stone = basanite: black jasper (Ref: 25, 27)

TOURMALINE: a group (Ref: 5, 15, 18, 19, 20, 22, 44, 47)

TREMOLITE: $Ca_2Mg_5Si_8O_{22}(OH)_2$, amphibole group (Ref: 18, 22)

TRIDYMITE: SiO_2, constituent of OPAL, q.v. (Ref: 37)

Tripoli: a rock consisting primarily of fine grained QUARTZ (Ref: 63)

Turgite = HEMATITE with adsorbed water, see HEMATITE.

Vermiculite: a group (Ref: 12, 20)

VESUVIANITE: $Ca_{10}Mg_2Al_4(SiO_4)_5(Si_2O_7)_2(OH)_4$, (Ref: 59)

VIVIANITE: $Fe_3^{+2}(PO_4)_2 \cdot 8H_2O$, associated with lignite.

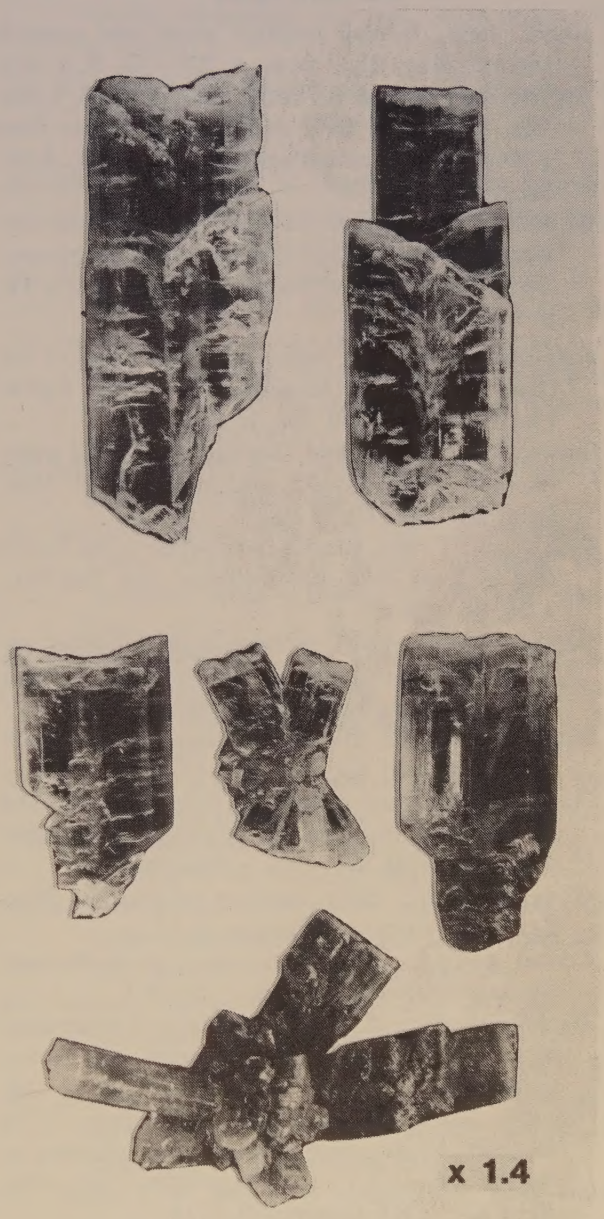

Figure 6. Selenite crystals from Bucatunna Clay outcrop near Edwards, Mississippi. (Photo and sample courtesy of David Dockery)

Wad: General term for soft massive black oxides and hydroxides of manganese, cf psilomelane, PYROLUSITE.

WATER: H_2O, Mississippi's commonest and most valuable mineral.

XENOTIME: YPO_4 (Ref: 22)

ZIRCON: $ZrSiO_4$ (Ref: 1, 5, 9, 15, 18, 19, 20, 22, 40, 49)

ZOISITE: $Ca_2Al_3(Si_3O_{12})(OH)$, (Ref: 22, 40)

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PETROLEUM NEWS

REPORT ON THE RESEARCH CONFERENCE ON THE GEOLOGY OF THE WOODBINE AND TUSCALOOSA FORMATIONS

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The Gulf Coast Section of the Society of Economic Paleontologists and Mineralogists held the First Annual Research Conference in Houston, Texas, November 30 to December 3, 1980. The first conference focused on a current topic of great interest both to the geologist and the nation– the geology of the Woodbine and Tuscaloosa formations. The purpose of the conference was communication of research results, exchange of information and ideas, and stimulation of further research in the discovery and development of hydrocarbons particularly in the Woodbine-Tuscaloosa of the Gulf Coast region. Gene Martin (Arco Oil and Gas Company) and Bob F. Perkins (The University of Texas at Arlington) co-chaired the conference and were assisted by nine other committee members from Louisiana, Texas, and Mississippi. Support for the conference came from more than 35 companies, organizations, and individuals. More than 300 persons were registered for the conference. Twenty papers were presented on various aspects of the Tuscaloosa-Woodbine in both the surface and subsurface, and there were two nights of core workshop.

Frank Harrison, Jr., Lafayette, Louisiana, set the tenor for the conference with a discussion of the history and development of the South Louisiana Tuscaloosa trend. Following were a series of papers on the Tuscaloosa outcrop of Alabama and Mississippi, on the discovery of the deep Tuscaloosa trend, petrography and diagenesis in the Woodbine-Tuscaloosa, depositional environments of the deep Woodbine-Tuscaloosa, log evaluation of wells in the Tuscaloosa trend of south Louisiana, seismic stratigraphy, and geothermal resources.

The core workshops were introduced by papers from Alan Thompson (Shell) on diagenesis of deep Woodbine-Tuscaloosa sandstones, and from Guy W. Smith (Chevron) on the sedimentology of the "19,800 Foot" Tuscaloosa Sandstone from deep wells in the False River Field in Pointe Coupe and West Baton Rouge Parishes, Louisiana. James R. Turner (Braddock Exploration) and Susan Conger (Gulf) discussed depositional environments and reservoir characteristics of Woodbine-Eagleford sands in the Kurten Field, Brazos County, Texas. After the presentations, there was an examination and discussion of the cores from the areas mentioned.

Approximately 500 copies of programs and abstracts were printed for the conference; less than 200 remain. The abstracts range in length from 200 words to more than 600 words. Some abstracts include diagrams. They are brief, but informative. While the supply lasts they can be obtained from R. P. Zingula, Exxon Co., USA, P. O. Box 4279, Houston, Texas 77001, for three dollars.

The Gulf Coast Section of the Society of Economic Paleontologists and Mineralogists plans to continue research conferences on an annual basis and the conference for 1981 is already in the planning stage. It is the intent of the planning committee to select topics of current interest, and to focus an entire conference on that topic.

PRICE OF CRUDE

Within the period from September 1980 to January 1981 the price of Gulf Coast sweet crude decreased from $38/ barrel to $36/ barrel (OGJ - January 5, 1981.)

HIGHLIGHTS OF 1980 OIL AND GAS EXPLORATION IN MISSISSIPPI

Several new oil and gas fields were discovered in 1980. The largest among the new gas discoveries were found in Jurassic and Lower Cretaceous sediments. Tomlinson Interests, Inc. - No. 1 Caley T. Jones well in NW SE Section 33-4N-5E of Rankin County produced 7.240 MMCF of gas per day from the Smackover, without stimulation, through an adjustable choke with a flowing pressure of 5820 pounds. The pay interval is said to be 422 gross feet. Mobil Oil Exploration and Producing Southeast, Inc., had a Hosston discovery in Lawrence County. The discovery well, No. 1 John H. Hauberg located NE SW

Section 1-5N-10E, flowed dry gas at the rate of 4.00 MMCF of gas per day through a 10/64-inch choke with tubing pressure of 4414 pounds. Union Oil Company of California opened Rodessa gas-condensate production in Oak Ridge Field, Warren County. The discovery well, No. 1 Billy R. Brown et al., 20-11, NE SW Section 20-17N-5E, flowed 3.146 MMCF of gas, 168 barrels of 56.2-gravity condensate and 16 barrels of water per day through 15/64-inch choke with tubing pressure of 2438 pounds.

New oil discoveries were found mainly in Cretaceous and Eocene sediments. Inexco Oil Company - No. 1 Homer Brown, located SW NE Section 8-6N-13W in Jones County, is the discovery well for Moselle Field and is producing oil from the Hosston. The discovery well tested 202 barrels of 41-gravity oil, 20.0 MCF of gas and 26 barrels of water per day. Craft Petroleum Company, Inc., opened Upper Tuscaloosa production in Flat Branch Field, Greene County. The discovery well, No. 1 Stanley, NE NW Section 8-5N-8W, pumped 117 barrels of 25-gravity oil and 180 barrels of water per day. In Franklin County, Germany-Gulmon completed No. 1 Ezell et al., SE SW Section 8-7N-3E, for Wilcox oil production in Middle Fork Field. The well flowed 80 barrels of 29-gravity oil and 36 MCF of gas per day through a 7/64-inch choke with tubing pressure of 375 pounds.

NEW OCCURRENCES OF MOLLUSCAN SPECIES IN THE MOODYS BRANCH FORMATION AT JACKSON, MISSISSIPPI

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and

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Introduction

New occurrences of three molluscan species are recorded from the Moodys Branch Formation at Jackson, Mississippi. These species include: (1) a new species of *Architectonica* - *A. meliconae*, (2) an unnamed species of *Simnia*, and (3) *Cochlespira bella polita* Harris. *A. meliconae* and *C. bella polita* are closely related, respectively, to the Claiborne species *A. textilina* (Dall) and *Cochlespira bella* Conrad s.s. The *Simnia* sp. is the first record of the genus in the Jackson Group in Mississippi. Palmer and Brann, 1966, record two species of *Simnia "Neosimnia"* in the Claiborne Group and one species in the Wilcox Group.

Systematics

Phylum MOLLUSCA
Class GASTROPODA
Subclass STREPTONEURA
Order MESOGASTROPODA
Superfamily ARCHITECTONICACEA Gray, 1850
Family ARCHITECTONICIDAE Gray, 1850
Genus *ARCHITECTONICA* Roeding *in* Bolten, 1798

Architectonica (Architectonica) meliconae n. sp.

Plate 1, figures 5A, 5B, 5C, 6A, 6B, 6C, 6D

The dorsal surface consists of one and a half nuclear whorls and three and a half postnuclear whorls. A distinct line separates the smooth nuclear whorls from the latter nodose whorls. The early postnuclear whorls consist of three nodose spiral cords with the subsutural cord being most prominent. After two and one half whorls, the subsutural cord divides to form three cords. The subsutural one of this series remains most prominent. After three and three fourths whorls, traces of an additional nodose spiral cord appears between the third and fourth cords from the suture and becomes more pronounced with growth. The three central spiral cords of the body whorl are subordinate to the subsutural cord and the two marginal cords.

The umbilical margin is coarsely nodose. The base is sculptured by nodose revolving cords, which become progressively smaller from the umbilicus to the prominent marginal cord. A faint, secondary, nodose cord occurs between the fourth and fifth cords from the umbilicus.

The peripheral margin is squared with a prominent upper and lower marginal cord and two intervening secondary cords.

This species is similar to *Architectonica* (*Architectonica*) *textilina* (Dall, 1892) in its square-shouldered margin and in its general ornamentation. It differs in having fewer nodose revolving cords on the upper and lower surfaces. *A. (A.) textilina* (Dall) occurs in the Cook Mountain Formation (Claiborne Group) at Wautubbee, Mississippi.

The type is from the Moodys Branch Formation at an excavation on Town Creek behind the Russell C. Davis Planetarium in Jackson, Mississippi. This species also occurs in the Mint Spring Formation of the Vicksburg Group (Lower Oligocene) near Cleary in Rankin County, Mississippi.

Superfamily CYPRAEACEA Rafinesque, 1815
Family OVULIDAE Fleming, 1822
Genus *SIMNIA* Risso, 1826

Simnia sp.

Plate 1, figure 4

This species is elongate with the center inflated and tapering to the anterior and posterior ends. The anterior end and the outer lip are missing from the figure specimen. The columella area is rounded in the center and becomes somewhat flattened anteriorly. There is a single spiral plication at the posterior end. To the unaided eye, the exterior appears smooth, but under magnification, numerous, wavy, incised, longitudinal lines appear on the surface.

This species resembles the living species *Simnia uniplicata* (Sowerby, 1848) in the general outline of the shell, and in having only a single plication at the posterior end of the columella. Other species of *Simnia* occurring in the Gulf Coast Eocene include: (1) *Simnia regularoidea* (Aldrich, 1921) from the Bells Landing Member, Tuscahoma Formation in Alabama, (2) *Simnia texana* (Johnson, 1899) from the Stone City Beds, Sparta Formation in Texas, and (3) *Simnia subtruncata* (Johnson, 1879) from the Cook Mountain Formation in Louisiana. Of these three species *S. regularoidea* more closely resembles the Jackson Eocene species.

The figure specimen is from the Moodys Branch Formation at Town Creek in Jackson, Mississippi (MGS locality 1).

Order NEOGASTROPODA Wenz, 1938
Suborder TOXOGLOSSA Troschel, 1848
Superfamily CONACEA Rafinesque, 1815

Genus *COCHLESPIRA* Conrad, 1865

Cochlespira bella polita

Plate 1, figures 1, 3

1937. *Cochlespira bella polita* Harris, Paleont. Amer., v. 2, No. 7, p. 46, pl. 9, fig. 12.

1966. Cf. *Ancistrosyrinx bella polita* (Harris). Palmer and Brann, Bull. Amer. Paleont., v. 48, No. 218, p. 495.

This subspecies differs from *Cochlespira bella* Conrad s.s. in the strength of the beaded ornamentation on the spiral cords. *C. bella polita* is slightly beaded on the carina; the presutural cord and the cords of the body whorl are smooth except for growth lines. *C. bella* s.s. is strongly beaded on the carina, presutural cord, and cords of the body whorl.

The type of *C. bella polita* is from the lower Jackson Group on the Ouachita River in Louisiana (exact locality unknown). The figured specimen is from the Moodys Branch Formation at Town Creek in Jackson, Mississippi (MGS locality 1). *C. bella* s.s. occurs in the Weches Formation in Texas and the Cook Mountain Formation in Mississippi (plate 1, figure 2).

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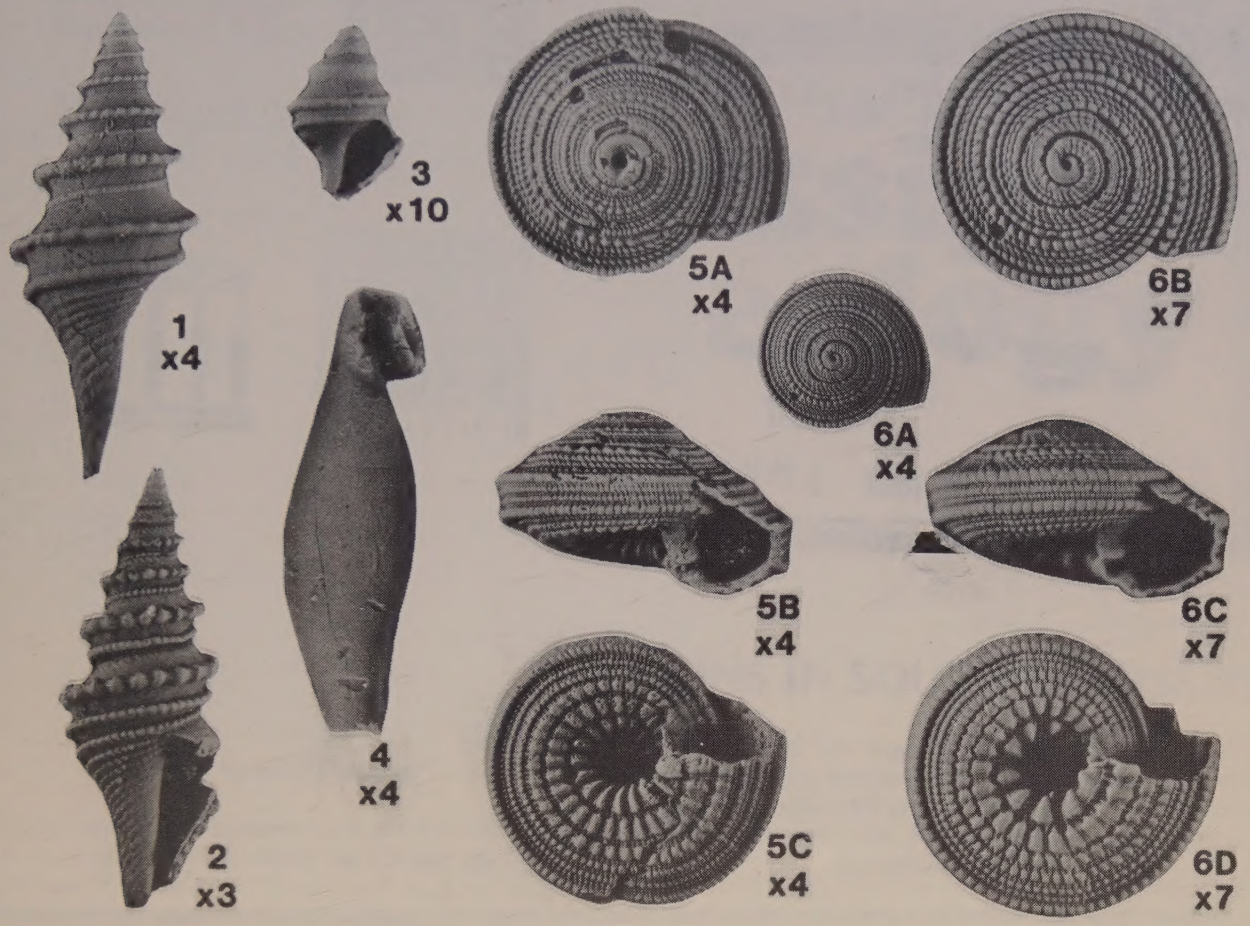

Plate 1.

Figure

1,3 *Cochlespira bella polita* Harris, 1937.

1. Height 15 mm, width 5.8 mm; Moodys Branch Formation, Town Creek, Jackson, Mississippi. MGS specimen 635.
3. Height 2 mm, width 1.2 mm; Moodys Branch Formation, Town Creek, Jackson, Mississippi. MGS specimen 636.

2 *Cochlespira bella* (Conrad, 1865).

Height 19 mm, width 7.2 mm; Cook Mountain Formation, Newton, Mississippi (MGS locality 65). MGS specimen 572.

4 *Simnia* sp.

Height (incomplete) 14.3 mm; Moodys Branch Formation, Town Creek, Jackson, Mississippi. MGS specimen 637.

5,6 *Architectonica meliconae* n. sp.

5. Height 5.6 mm, width 9.7 mm; Mint Spring Formation, Cleary, Rankin Co., Mississippi. MGS specimen 638.
6. Height 3.2 mm, width 5.8 mm; Moodys Branch Formation, excavation of Town Creek behind the Russell C. Davis Planetarium, Jackson, Mississippi. Holotype, Paleontological Research Institute No. 30044.

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